

Chapter 1



USFWS

Mason Neck Refuge

The Purpose of, and Need for, Action

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Introduction

The U.S. Fish and Wildlife Service (Service, we) prepared this Comprehensive Conservation Plan (CCP) for Elizabeth Hartwell Mason Neck National Wildlife Refuge (Mason Neck Refuge; refuge) and Featherstone National Wildlife Refuge (Featherstone Refuge; refuge) pursuant to the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. § 668dd-668ee), as amended by the National Wildlife Refuge System Improvement Act of 1997 (Pub. L. 105-57; 111 Stat. 1253; Refuge Improvement Act). An Environmental Assessment (EA), required by the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. § 4321 *et seq.*; 83 Stat. 852) was prepared concurrent with the draft CCP. The decision to adopt this plan and its “Finding of No Significant Impact” are included as appendix H.

Mason Neck and Featherstone Refuges, together with Occoquan Bay National Wildlife Refuge (Occoquan Bay Refuge), comprise the Potomac River National Wildlife Refuge Complex (Refuge Complex) in northern Virginia (map 1.1).

Mason Neck Refuge was established in 1969 as the first national wildlife refuge specifically created to protect a federally listed endangered or threatened species. The bald eagle (*Haliaeetus leucocephalus*), which was federally listed as threatened in 1969 was, and continues to be, the focal species of concern on the refuge. Due to successful recovery efforts throughout its range, the bald eagle was officially removed from the Federal list of endangered and threatened species in 2007. It continues to be protected, however, under other Federal laws and by Virginia law. Mason Neck Refuge encompasses 2,277 acres of forest, marsh, and riverine habitat along Occoquan Bay and the mainstem of the tidal Potomac River (map 1.2).

Featherstone Refuge was established in 1979 with land acquired from the District of Columbia. It was further expanded in 1992 with lands donated by Prince William County. It presently encompasses 325 acres of marsh and forested riverine habitat along the southwest edge of Occoquan Bay (map 1.3). Its wetlands are important habitat for bald eagles, wading and waterbirds, waterfowl, and other native species of conservation concern.

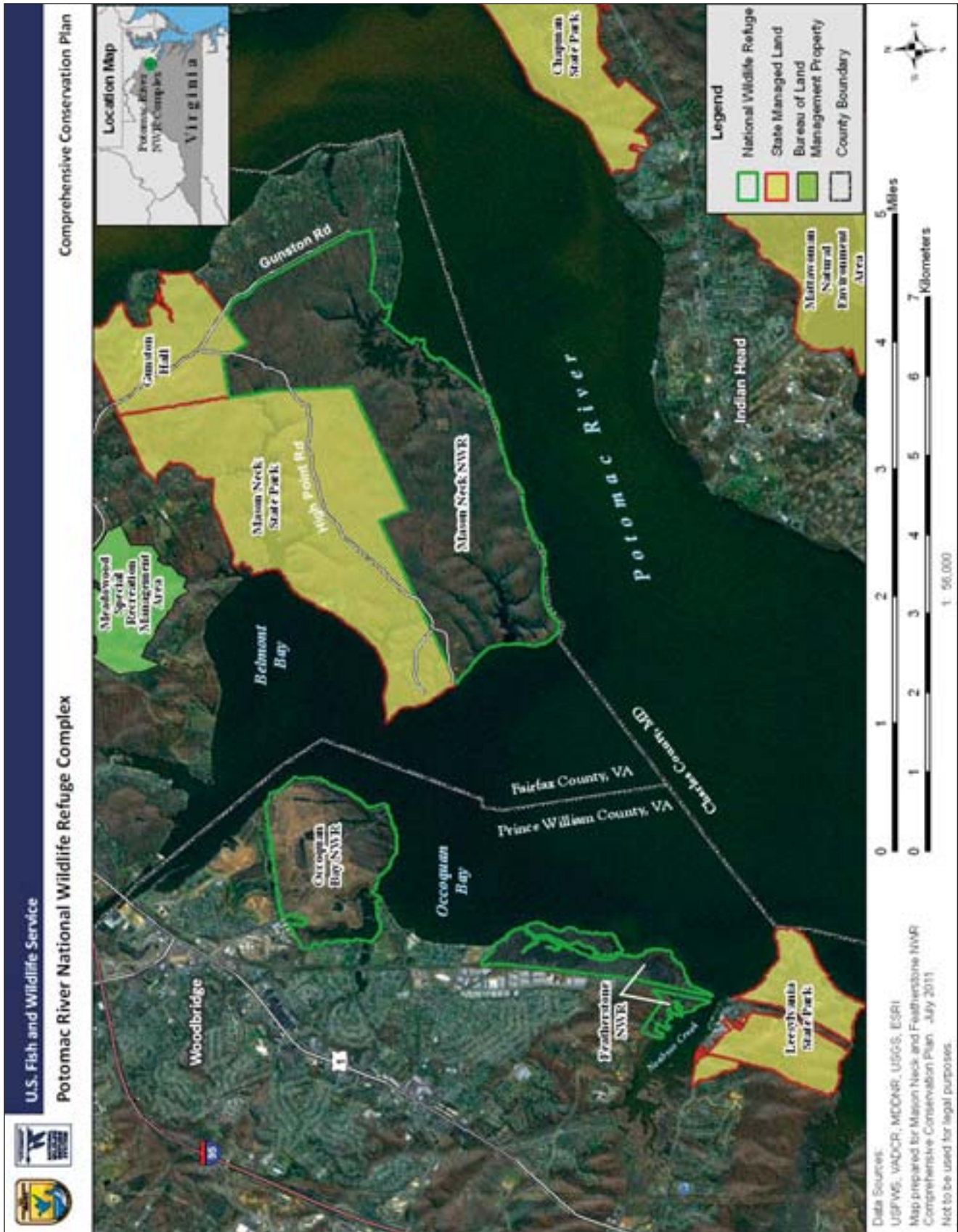
This document presents the combination of management goals, objectives, and strategies that will guide the management decisions and actions on Mason Neck and Featherstone Refuges over the next 15 years. It also helps Virginia natural resource agencies, our conservation partners, local communities, and the public understand our priorities and work with us to achieve common goals.

Bald eagle

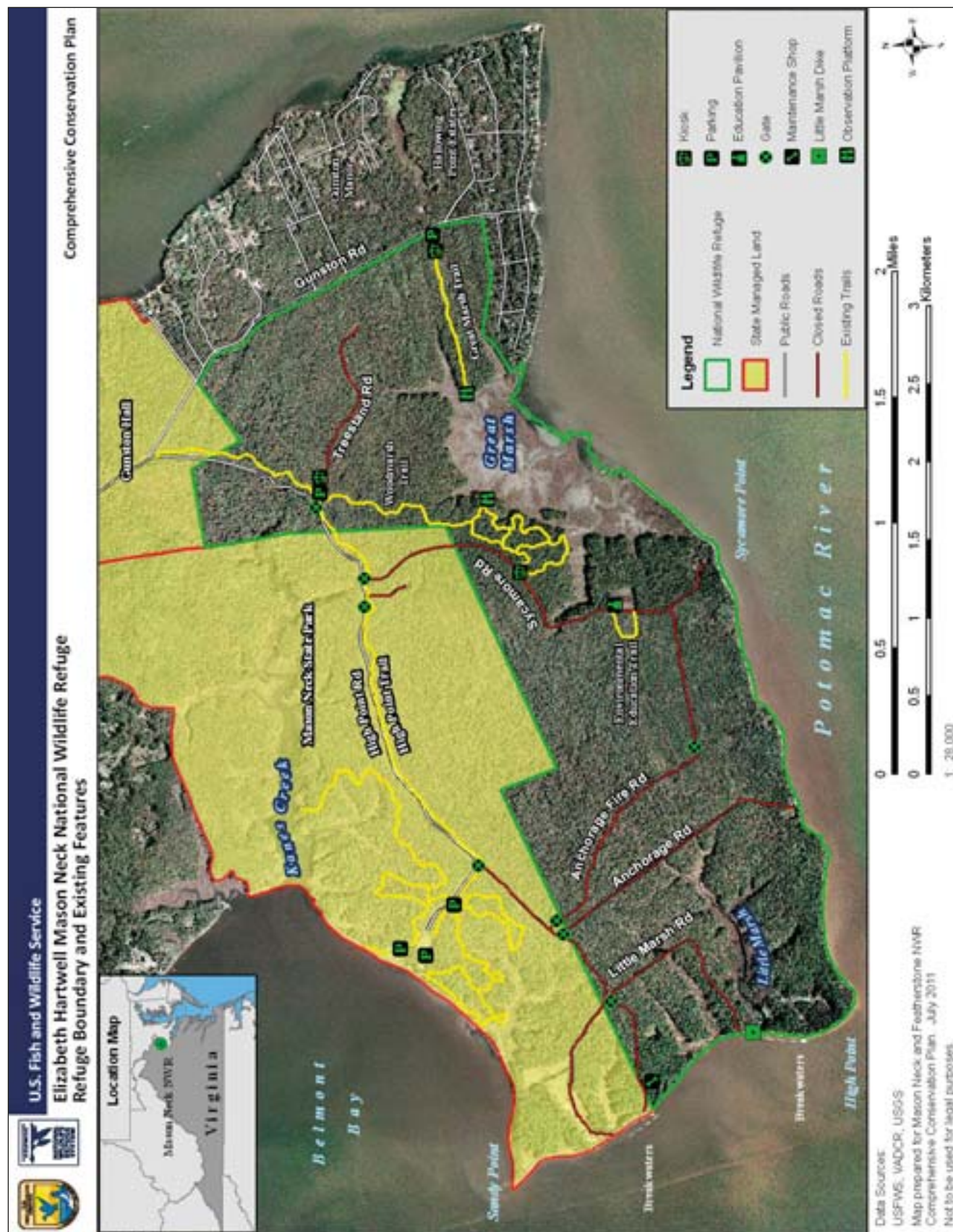


Tim Williams

Map 1.1. Potomac River National Wildlife Refuge Complex



Map 1.2. Mason Neck National Wildlife Refuge Boundary and Existing Features



Map 1.3. Featherstone National Wildlife Refuge Boundary and Existing Features



Document Organization

This CCP has six chapters and eight appendixes. Chapter 1 sets the stage for the rest of the document by

- describing the purpose of, and need for, a CCP and EA;
- defining our planning analysis area;
- presenting the mission, policies, and mandates affecting the development of the plan;
- identifying other conservation plans we used as references; and
- clarifying the vision and goals that drive refuge management.

Chapter 2, “The Planning Process,” describes our planning process, including public and partner involvement, and its compliance with NEPA regulations, and identifies public issues or concerns that surfaced during plan development.

Chapter 3, “Existing Environment,” describes the two refuges’ regional and local settings, physical attributes, habitats and species, and human-built infrastructure.

Chapter 4, “Management Direction and Implementation,” presents the actions, goals, objectives, and strategies that will guide our decisionmaking and land management for each refuge. It also outlines the staffing and funding needed to accomplish that management.

Chapter 5, “Consultation and Coordination with Others,” summarizes how the public and our partners were involved in the planning process. Their continued involvement is vital for the future management of the refuges.

Chapter 6, “List of Preparers,” credits this plan’s writers and contributors.

Eight appendixes provide additional supporting documentation and references:

- Appendix A: Species Known or Suspected on the Refuges and Their Conservation Status
- Appendix B: Findings of Appropriateness and Compatibility Determinations
- Appendix C: Refuge Operations Needs System (RONS) and Service Asset Maintenance Management System (SAMMS)
- Appendix D: Endangered Species Act and National Historic Preservation Act Consultation Documents
- Appendix E: Staffing Chart
- Appendix F: Archaeological and Historical Resources Overview
- Appendix G: Summary of Public Comments and Service Responses on the Draft Comprehensive Conservation Plan and Environmental Assessment for Elizabeth Hartwell Mason Neck and Featherstone National Wildlife Refuges
- Appendix H: Finding of No Significant Impact (FONSI)

The Purpose of, and Need for, this Comprehensive Conservation Plan

The *purpose* of this CCP is to provide strategic direction to meet the management goals for each refuge, as detailed below. Other broad purposes are to

- best achieve the refuges' establishment purposes and visions;
- contribute to the missions of the Service and the National Wildlife Refuge System (Refuge System);
- adhere to Service policies and mandates;
- address significant issues; and
- incorporate sound principles of fish and wildlife science.

There are several reasons we identify a *need for* a CCP for these refuges. First, Federal law— the Refuge Improvement Act—requires us to write a CCP for every national wildlife refuge to help fulfill the mission of the Refuge System. Also, new Service policies providing specific guidance on implementing the Refuge Improvement Act have been developed since the refuges were established. A CCP incorporates those policies, and further fulfills the need to provide each refuge with specific strategic management direction for the next 15 years by

- stating clearly the desired future conditions for refuge habitat, wildlife, visitor services, staffing, and facilities;

*White-tailed
deer*



Elizabeth Wunker/USFWS

- explaining the reasons for management actions to State agencies, refuge neighbors, visitors, and partners;
- ensuring that present and future wildlife-dependent public uses are compatible with the purposes of the refuge;
- providing long-term continuity and direction in refuge management; and
- justifying budget requests for staffing, operating, and maintenance funds.

In addition, both refuges lack master plans to accomplish the actions above in a regional landscape and economy that has changed considerably since the refuges were established. Additionally, pressures for public access have continued to grow, and new ecosystem and species conservation plans bearing directly on management of the two refuges have been developed.

Also, in recent years, we have developed strong partnerships vital for our continued success, and we must convey our vision for the refuges to those partners and the public.

Finally, we need CCPs to guide us in conserving Federal trust species along the shoreline of the tidal Potomac River that are consistent with the overarching vision of the Potomac River Refuge Complex.

All of these reasons underscore the need for the strategic direction a CCP provides. To help us resolve management issues and public concerns, our planning process incorporates input from State natural resource agencies, affected communities, individuals, organizations, our partners, and the public.

Mason Neck Refuge Goals

Goal 1. Protect, enhance, and restore the biological integrity, diversity, and environmental health of mature hardwood-mixed forests to support native wildlife and plant communities, including species of conservation concern.

Goal 2. Protect, enhance, and restore the biological integrity, diversity, and environmental health of wetland habitats and shorelines to support native wildlife and plant communities, including species of conservation concern.

Goal 3. Provide quality, compatible wildlife-dependent recreational opportunities with particular emphasis on interpretation, wildlife observation, and photography.

Goal 4. Enhance efforts to promote awareness, understanding, and support of the values of the refuge, the resources of the Chesapeake Bay watershed, and the mission of the National Wildlife Refuge System.

Goal 5. Enhance efforts to protect and interpret refuge cultural resources.

Featherstone Refuge Goals

Goal 1. Protect forest, wetland, and shoreline habitats to support native wildlife and plant communities, including species of conservation concern.

Goal 2. Provide compatible wildlife-dependent recreational opportunities to increase the enjoyment and appreciation of the refuge's resources to visitors and nearby residents.

Goal 3. Promote awareness, understanding, and support of the values of the refuge, the resources of the Chesapeake Bay watershed, and the mission of the National Wildlife Refuge System.

Regional Context and Project Analysis Area

Early in the planning process we defined a regional context to identify a broad expanse of landscape that potentially could influence or affect both refuges' resources. The regional context (map 1.4) is the Chesapeake Bay and the portion of the Chesapeake Bay watershed drained by the Potomac River.

Within the regional context, we also defined a project analysis area. The project area is a smaller landscape within which more direct influences on both refuges' natural, cultural, and visitor resources would occur. The project analysis area (map 1.5) includes the following:

- The local watershed of the three refuges in the Potomac River Refuge Complex—the Middle Potomac–Anacostia–Occoquan subwatershed
- The migratory bird conservation area defined by the Atlantic Coast Joint Venture (ACJV) as the Tidal Potomac River focus area
- The Lower Potomac River Important Bird Area (IBA) designated by the National Audubon Society (NAS, 2007)
- The Coastal Plain-Potomac Ecological Drainage Unit (EDU), defined by the Virginia Department of Game and Inland Fisheries (VDGIF) for conservation of State aquatic species of concern (VDGIF, 2005)

The mainstem of the Potomac River is under the jurisdiction of Maryland. Tributaries, embayments, and backwaters on the east side—outside of the mainstem—such as Occoquan Bay, are under the jurisdiction of Virginia.

Socioeconomic Context

The socioeconomic context for both refuges is northern Virginia, which has a geographic area of approximately 1,304 square miles and is home to over 2,000,000 residents (NVRC, 2010). Northern Virginia is a sub-area of both the State of Virginia and the Washington, D.C. metropolitan area. It borders Maryland and Washington, D.C. along the Potomac River and is found at the northeastern reaches of Virginia (map 1.6).

The Northern Virginia Regional Commission (NVRC) compiles a wide range of information about the demographic, social, and economic characteristics of the northern Virginia population.

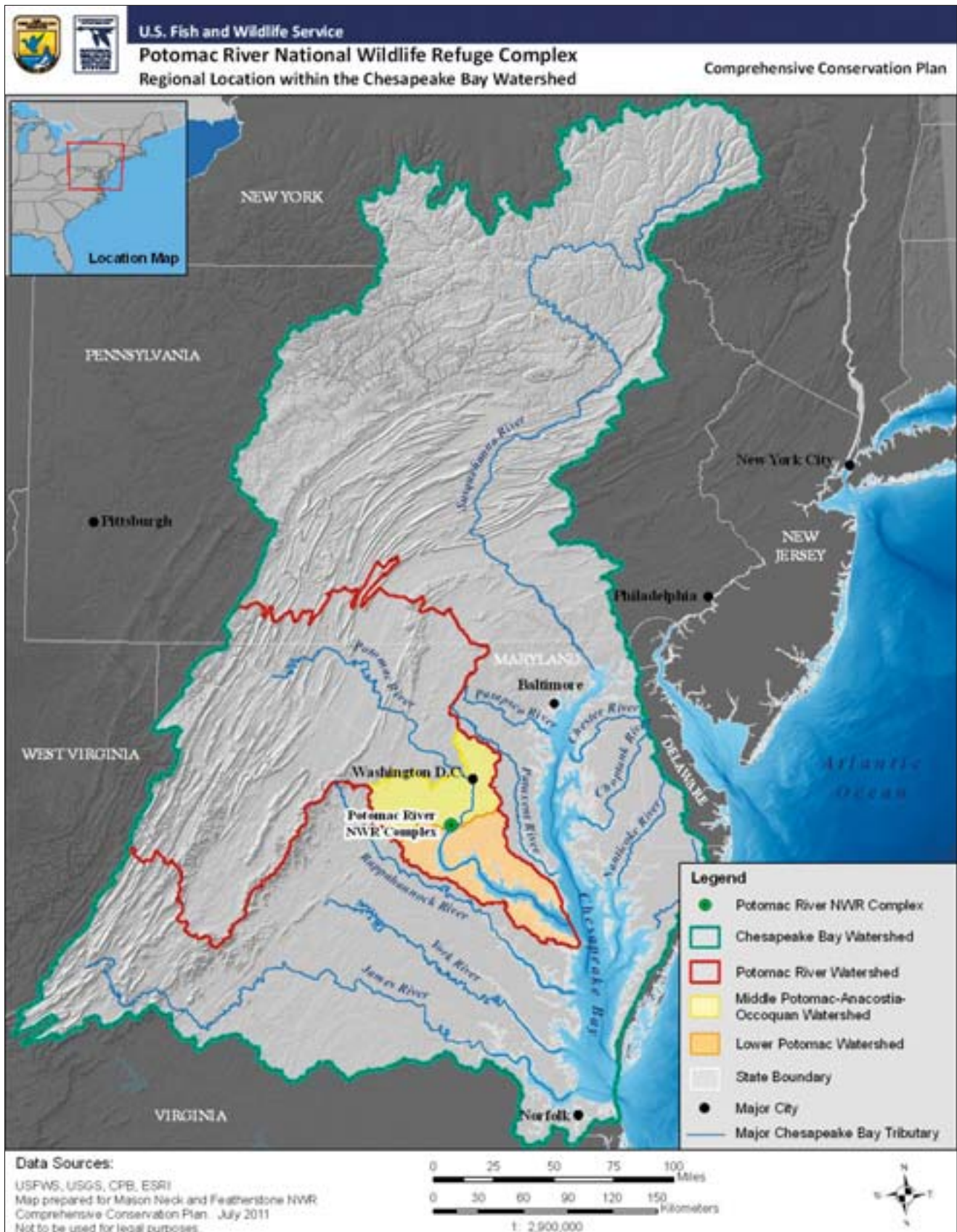
The NVRC is a regional council representing the local governments. Its 14 members comprise 4 counties: Arlington, Fairfax, Loudoun, and Prince William; 5 independent cities: Alexandria, Fairfax, Falls Church, Manassas, and Manassas Park; and 5 incorporated towns: Dumfries, Herndon, Leesburg, Purcellville, and Vienna. The NVRC's Northern Virginia Databook (2003) presents a range of demographic information including data on income, education, taxes, employment, economics, housing, and transportation. The Northern Virginia Databook, with data organized by city and county, is available online from: <http://www.novaregion.org/index.aspx?NID=227> (accessed June 2011).



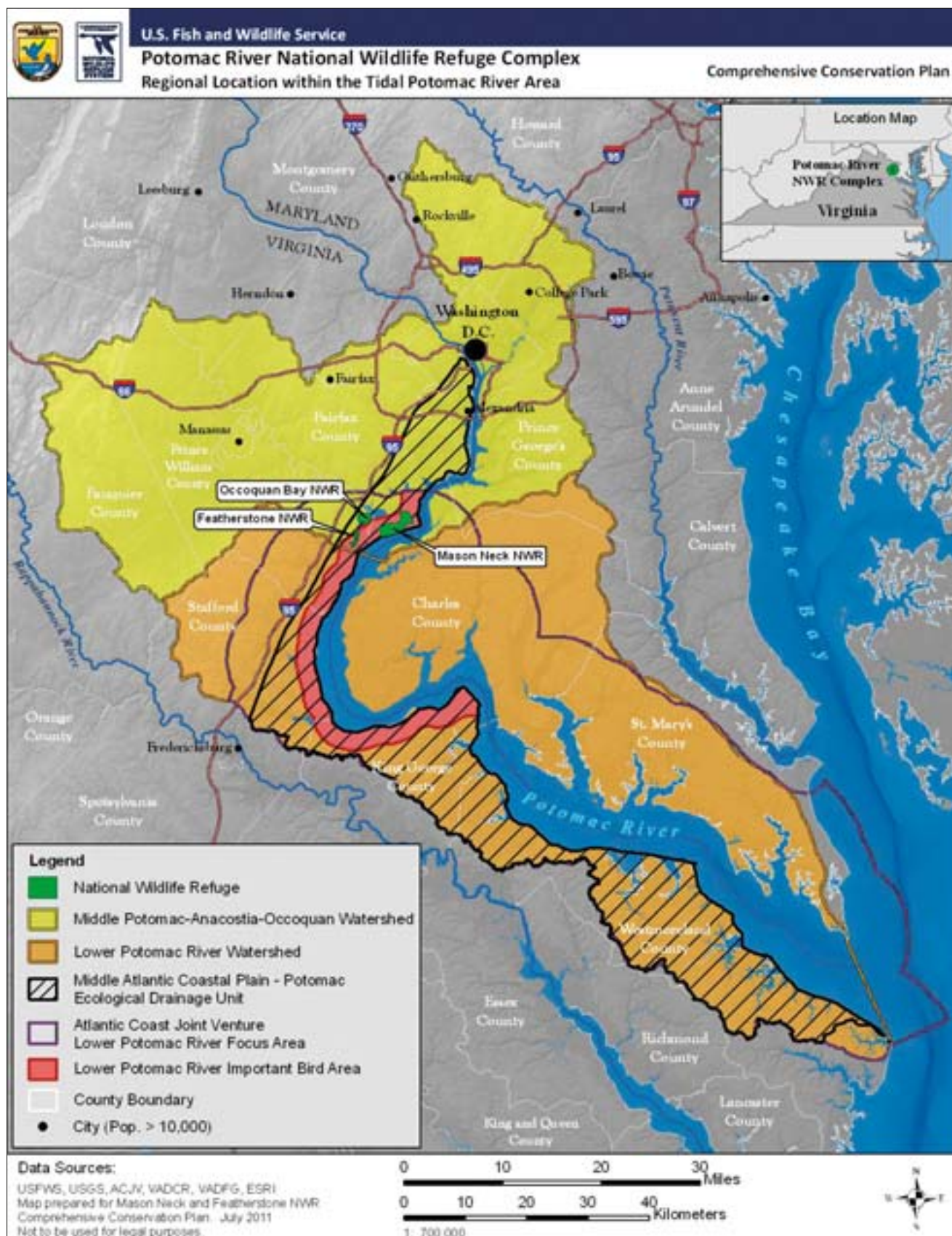
Red-tailed hawk

George Gentry/USFWS

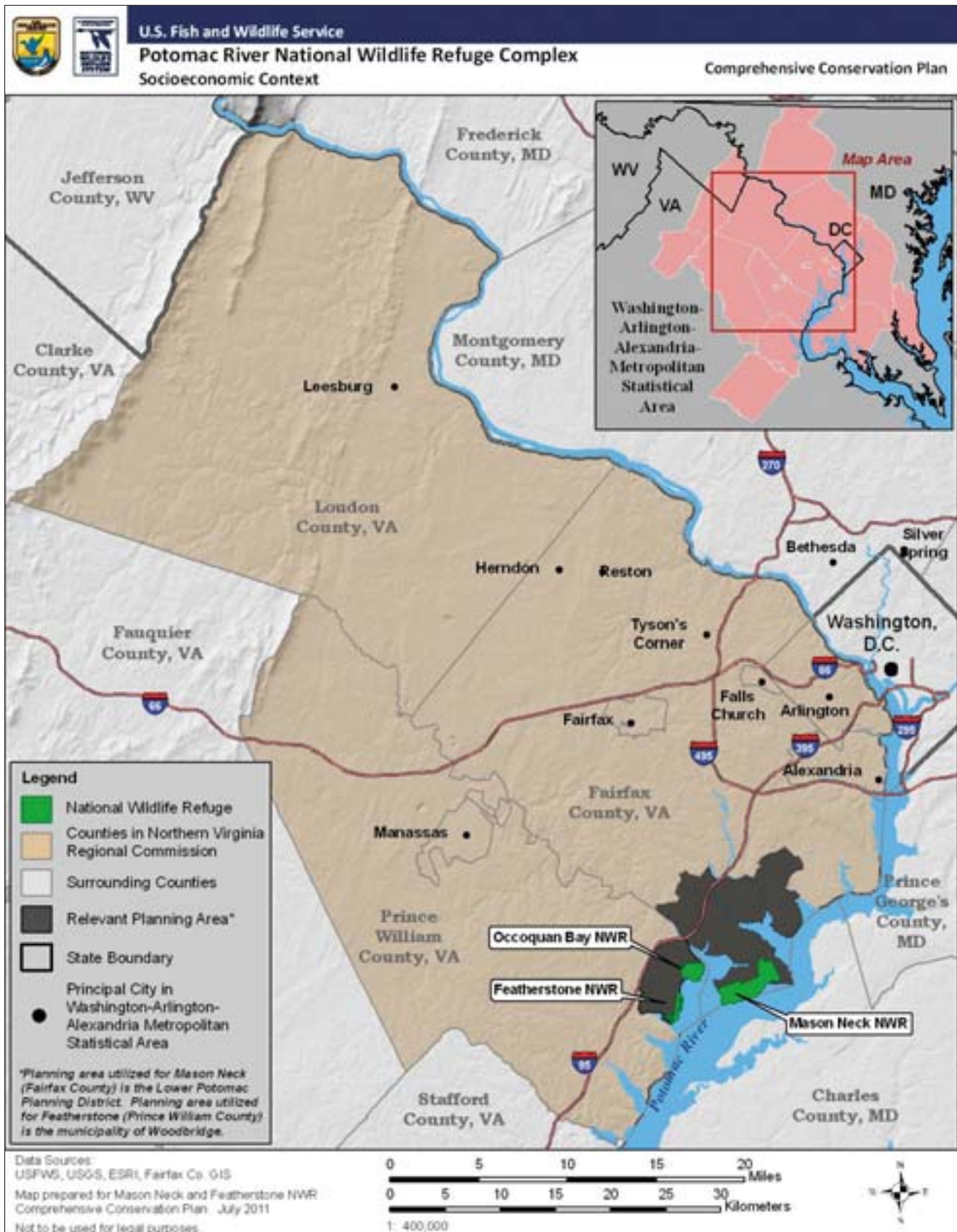
Map 1.4. Potomac River Refuge Complex and its Regional Location within the Chesapeake Bay Watershed



Map 1.5. Potomac River Refuge Complex and its Regional Location within the Tidal Potomac River Area



Map 1.6. Potomac River Refuge Complex and its Socioeconomic Context



The Service and Refuge System Policies and Mandates Guiding Planning

The U.S. Fish and Wildlife Service and its Mission

The Service is part of the Department of the Interior. Our mission is:

Working with others to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people.

Congress entrusts to the Service the conservation, protection, and enhancement of the following national natural resources:

- Migratory birds and fish
- Federally listed endangered or threatened species
- Interjurisdictional fish
- Wetlands
- Certain marine mammals
- National wildlife refuges

Boundary marker on Featherstone refuge



In addition to national wildlife refuges, the Service operates national fish hatcheries, fisheries assistance field offices, and ecological services field offices. It also enforces Federal wildlife laws and international treaties on importing and exporting wildlife, assists states with their fish and wildlife programs, and helps other countries develop conservation programs.

The Service Manual, available online at: <http://www.fws.gov/policy/manuals/> (accessed June 2011), contains the standing and continuing directives on fulfilling our responsibilities. The 600 series of the Service Manual addresses land use management, and sections 601-609 specifically address management of national wildlife refuges.

The Service publishes special directives that affect the rights of citizens or the authorities of other agencies separately in the Code of Federal Regulations (CFR); the Service Manual does not duplicate them (see 50 CFR 1–99 online at: <http://www.gpoaccess.gov/cfr/index.html>; accessed June 2011).

The National Wildlife Refuge System and its Mission and Policies

The Refuge System is the world's largest collection of lands and waters set aside specifically for the conservation of wildlife and the protection of ecosystems. More than 550 national wildlife refuges encompass more than 150 million acres of lands and waters in all 50 States and several island territories. Each year, more than 40 million visitors hunt, fish, observe, and photograph wildlife, or participate in environmental education and interpretation on refuges.

In 1997, President Clinton signed into law the Refuge Improvement Act. This act establishes a unifying mission for the Refuge System.

The mission of the System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

—Refuge Improvement Act; Public Law 105-57

This act states that the Refuge System must focus on wildlife conservation. It also states that the mission of the Refuge System, coupled with the purposes for which each refuge was established, will provide the principal management direction on that refuge. The Refuge Improvement Act also establishes a process for determining compatibility of public uses on refuges and requires us to prepare a CCP for each refuge.

The Refuge System Manual contains policy governing the operation and management of the Refuge System that the Service Manual does not cover, including technical information on implementing refuge policies and guidelines on enforcing laws. These are a few noteworthy policies instrumental in developing these CCPs.

Policy on the National Wildlife Refuge System Mission, Goals, and Purposes

This policy (601 FW 1; <http://www.fws.gov/policy/601fw1.html> [accessed August 2011]) sets forth the Refuge System mission noted above, how it relates to the Service mission, and explains the relationship of the Refuge System mission and goals, and the purpose(s) of each unit in the Refuge System. In addition, it identifies the following Refuge System goals:

- Conserve a diversity of fish, wildlife, and plants and their habitats, including species that are endangered or threatened with becoming endangered.
- Develop and maintain a network of habitats for migratory birds, anadromous and interjurisdictional fish, and marine mammal populations that is strategically distributed and carefully managed to meet important life history needs of these species across their ranges.
- Conserve those ecosystems, plant communities, and wetlands of national or international significance, and landscapes and seascapes that are unique, rare, declining, or underrepresented in existing protection efforts.
- Provide and enhance opportunities to participate in compatible, wildlife-dependent recreation (hunting, fishing, wildlife observation and photography, and environmental education and interpretation).
- Foster understanding and instill appreciation of the diversity and interconnectedness of fish, wildlife, plants, and their habitats.

This policy also establishes the following management priorities for the Refuge System:

- Conserve fish, wildlife, and plants, and their habitats.
- Facilitate compatible, wildlife-dependent recreational uses.
- Consider other appropriate and compatible uses.

Policy on Coordination and Cooperative Work with State Fish and Wildlife Agencies

This policy (601 FW 7; <http://www.fws.gov/policy/601fw7.html>; [accessed August 2011]) establishes procedures for coordinating and working cooperatively with state fish and wildlife agency representatives on the management of units within the Refuge System. The policy acknowledges that effective conservation of fish, wildlife, plants, and their habitats depends on the professional relationship between managers at the State and Federal level. The policy also affirms the unique expertise and role of State fish and wildlife agencies in the management of fish and wildlife.

Concerning the preparation of CCPs, the policy specifically mentions that the Service will consult with adjoining State landowners and State fish and wildlife agencies, and will coordinate with relevant State plans for fish and wildlife and their habitats, during development or revision of plans.

Policy on Refuge System Planning

This policy is detailed in three Service Manual chapters:

- 602 FW 1 (Refuge Planning Overview); <http://www.fws.gov/policy/602fw1.html> (accessed June 2011)
- 602 FW 2 (Land Acquisition Planning); chapter has not been published yet
- 602 FW 3 (Comprehensive Conservation Planning Process); <http://www.fws.gov/policy/602fw3.html> (accessed June 2011)

The policy establishes the requirements and guidance for Refuge System planning, including CCPs and step-down management plans. It states that we will manage all refuges in accordance with an approved CCP that, when implemented, will help

- achieve refuge purposes;
- fulfill the Refuge System mission;
- maintain and, where appropriate, restore the ecological integrity of each refuge and the Refuge System;
- achieve the goals of the National Wilderness Preservation System and the National Wild and Scenic Rivers System; and,
- conform to other mandates.

The details on preparing CCPs (602 FW 3) also provide guidance, systematic direction, and minimum requirements for developing all CCPs, and provide a decisionmaking process that fulfills those requirements. Among them, we are to review any existing special designation areas or the potential for such designations (e.g., Wilderness and Wild and Scenic Rivers) and incorporate a summary of those reviews into each CCP.

Policy on Maintaining Biological Integrity, Diversity, and Environmental Health

This policy (601 FW 3; <http://www.fws.gov/policy/601fw3.html>; [accessed June 2011]) provides guidance on maintaining or restoring the biological integrity, diversity, and environmental health of the Refuge System, including the protection of a broad spectrum of fish, wildlife, and habitat resources in refuge ecosystems. It provides refuge managers with a process for evaluating the best management direction to prevent the additional degradation of environmental conditions and restore lost or severely degraded environmental components. It also provides guidelines for dealing with external threats to the biological integrity, diversity, and environmental health of a refuge and its ecosystem.

Policy on Wildlife-Dependent Recreation

This policy (605 FW 1-7; <http://www.fws.gov/policy/605fw1.html>; [accessed June 2011]) defines Service policies, strategies, and requirements concerning the management of wildlife-dependent recreation programs within the Refuge System. The Refuge Improvement Act establishes that “compatible wildlife-

dependent recreation is a legitimate and appropriate general public use of the Refuge System.” The overarching goal of this policy is to enhance wildlife-dependent recreation opportunities and access to quality visitor experiences on refuges while managing refuges to conserve fish, wildlife, plants, and their habitats. According to this policy, new and ongoing recreational uses should help visitors focus on wildlife and other natural resources. These uses should

provide an opportunity to make visitors aware of resource issues, management plans, and how the refuge contributes to the Refuge System and Service missions. Thus, we only allow wildlife-dependent recreation on a refuge after we determine it is appropriate and compatible (see discussions below). Six wildlife-dependent uses were identified in the Refuge Improvement Act as being priority general public uses of the Refuge System and should receive enhanced consideration over non-priority uses. Those uses are: hunting, fishing, wildlife observation and photography, and environmental education and interpretation. Chapters within this policy present guiding principles for each of these respective uses and provides guidance on how to plan for, establish, conduct, and evaluate each program.



Lee Karney/USFWS

Green heron

Policy on Appropriateness of Refuge Uses

Federal law and Service policy provide the direction and planning framework for protecting the Refuge System from inappropriate, incompatible, or harmful human activities and ensuring that visitors can enjoy its lands and waters. This policy (603 FW 1; <http://www.fws.gov/policy/603fw1.html>; [accessed June 2011]) provides a national framework for determining appropriate refuge uses in an effort to prevent or eliminate those uses that should not occur in the Refuge System. It describes the initial decision process the refuge manager follows when first considering whether or not to allow a proposed use on a refuge. A required form documents the decision. An appropriate use must meet at least one of the following four conditions:

- 1) The use is a wildlife-dependent recreational use as identified in the Refuge Improvement Act.
- 2) The use contributes to fulfilling the refuge purpose(s), the Refuge System mission, or goals and objectives described in a refuge management plan approved after October 9, 1997 (the date the Refuge Improvement Act was signed into law).
- 3) The use involves the take of fish and wildlife under state regulations.
- 4) The use has been found to be appropriate after concluding a specified findings process using 10 criteria.

Policy on Compatibility

This policy (603 FW 2; <http://www.fws.gov/policy/603fw2.html> [accessed June 2011]) relates to the appropriateness policy. The refuge manager must first find that a use is appropriate before undertaking a compatibility review of that use. If the proposed use is not found appropriate, the refuge manager will not allow the use and will not prepare a compatibility determination.

This policy and its regulations includes a detailed description of the process and requirements for conducting compatibility reviews. Our summary follows:

- The Refuge Improvement Act and its regulations require an affirmative finding by the refuge manager on the compatibility of a public use before it is allowed on a national wildlife refuge.
- A compatible use is one “that will not materially interfere with or detract from the fulfillment of the mission of the Refuge System or the purposes of the refuge.”
- The act defines six wildlife-dependent uses that are to receive enhanced consideration on refuges: hunting, fishing, wildlife observation and photography, and environmental education and interpretation.
- The refuge manager may authorize those priority uses on a refuge when they are compatible and consistent with public safety.
- When the refuge manager publishes a compatibility determination, it will specify the required maximum reevaluation dates, which is either 15 years for wildlife-dependent recreational uses or 10 years for other uses.
- However, the refuge manager may reevaluate the compatibility of any use at any time, for example, sooner than its mandatory date, or even before the CCP process is completed if new information reveals unacceptable impacts or incompatibility with refuge purposes (602 FW 2.11, 2.12).
- The refuge manager may allow or deny any use, even one that is compatible, based on other considerations such as public safety, policy, or available funding.

Other Mandates

Although Service and Refuge System policy, along with each refuge’s purposes, provides the foundation for its management, there are other Federal laws, executive orders, treaties, interstate compacts, and regulations on conserving and protecting natural and cultural resources that also affect how we manage refuges. A centralized library of Servicewide policies, executive orders, director’s orders, and the “Digest of Federal Resource Laws of Interest to the U.S. Fish and Wildlife Service” can be viewed at: <http://www.fws.gov/laws/lawsdigest.html> (accessed June 2011).

Of particular note are Federal laws that require the Service to identify and preserve its important historic structures, archaeological sites, and artifacts. NEPA mandates our consideration of cultural resources in planning Federal actions. The Refuge Improvement Act requires that the CCP for each refuge identify its archaeological and cultural values. The following is a highlight of some cultural and historic resource protection laws which relate to the development of CCPs.

- The Archaeological Resources Protection Act (16 U.S.C. § 470aa–470ll; Public Law 96-95), approved October 31, 1979 (93 Stat. 721), referred to as ARPA, largely supplanted the resource protection provisions of the Antiquities Act of 1906 for archaeological items. ARPA established detailed requirements for issuance of permits for any excavation or removal of archaeological resources from Federal or Indian lands. It also establishes civil and criminal penalties for the unauthorized excavation, removal, or damage of any such resources; for any trafficking in such resources removed from Federal or Indian land in violation of any provision of Federal law; and for interstate and foreign commerce in such resources acquired, transported, or received in violation of any state or local law.

- The Archaeological and Historic Preservation Act (16 U.S.C. § 469-469c; Public Law 86-523), approved June 27, 1960 (74 Stat. 220), as amended by Public Law 93-291, approved May 24, 1974 (88 Stat. 174), carries out the policy established by the Historic Sites Act (see below). It directs Federal agencies to notify the Secretary of the Interior (Secretary) whenever they find a Federal or Federal-assisted, licensed, or permitted project may cause loss or destruction of significant scientific, prehistoric, or archaeological data. The act authorizes use of appropriated, donated, and/or transferred funds for the recovery, protection, and preservation of such data.
- The Historic Sites, Buildings, and Antiquities Act (16 U.S.C. § 461-462, 464-467; 49 Stat. 666) of August 21, 1935, popularly known as the Historic Sites Act, as amended by Public Law 89-249, approved October 9, 1965 (79 Stat. 971), declares it a national policy to preserve historic sites and objects of national significance, including those located on refuges. It provides procedures for designation, acquisition, administration, and protection of such sites. Among other things, National Historic and Natural Landmarks are designated under authority of this act. More than 30 national wildlife refuges contain such sites.
- The National Historic Preservation Act of 1966 (16 U.S.C. § 470-470b, 470c-470n) Public Law 89-665, approved October 15, 1966 (80 Stat. 915), and repeatedly amended, provides for preservation of significant historical features (buildings, objects, and sites) through a grant-in-aid program to the states. It established a National Register of Historic Places and a program of matching grants under the existing National Trust for Historic Preservation (16 U.S.C. § 468-468d). This act also established an Advisory Council on Historic Preservation, which was made a permanent independent agency in Public Law 94-422, approved September 28, 1976 (90 Stat. 1319), and created the Historic Preservation Fund. Federal agencies are directed to take into account the effects of their actions on items or sites listed or eligible for listing in the National Register. At least 90 historic sites on national wildlife refuges have been placed on the National Register.

The Service also owns and cares for museum properties. The most common are archaeological collections, art, zoological and botanical collections, historical photographs, and historic objects. Each refuge maintains an inventory of its museum property. Our museum property coordinator in Hadley, Massachusetts, guides the refuges in caring for that property and helps us comply with the Native American Grave Protection and Repatriation Act of 1990 and Federal regulations governing Federal archaeological collections. Our program ensures that Service collections will continue to be available to the public for education and research.

Two other Federal resource laws are also important to highlight as they are integral to developing a CCP. They can be viewed in their entirety at: <http://www.fws.gov/laws/lawsdigest/resourcelaws.html> (accessed June 2011).

- The Wilderness Act of 1964 (16 U.S.C. § 1131-1136; PL 88-577) established a National Wilderness Preservation System (NWPS) that is composed of Federal-owned areas designated by Congress as “Wilderness Areas.” The act directs each agency administering designated wilderness to preserve the wilderness character of areas within the NWPS, and to administer the NWPS for the use and enjoyment of the American people in a way that will leave these areas unimpaired for future use and enjoyment as wilderness. The act also directed the Secretary of the Interior, within 10 years, to review every roadless area of 5,000 or more acres and every roadless island (regardless of size) within National Wildlife Refuge and National Park Systems for inclusion in the National Wilderness Preservation System. Service planning policy requires we evaluate the potential for wilderness on refuge lands, as appropriate, during the CCP planning process.

- The Wild and Scenic Rivers Act of 1968, as amended, selects certain U.S. rivers possessing remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values and preserves them in a free-flowing condition and protects their local environments. Service planning policy requires we evaluate the potential for wild and scenic rivers designation on refuge lands, as appropriate, during the CCP planning process.

In the draft CCP/EA, Chapter 4 “Environmental Consequences,” evaluated this plan’s compliance with the acts noted above, as well as the Clean Water Act of 1977 as amended (33 U.S.C. § 1251 *et seq.*; PL 107-303), Clean Air Act of 1970 as amended (42 U.S.C. § 7401 *et seq.*), and the Endangered Species Act (ESA) of 1973 (16 U.S.C. § 1531-1544), as amended. The draft NEPA and the Council on Environmental Quality’s (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 CFR 1500-1508).

Our mandates also include orders directed by the President, the Secretary, and the Director of the Service. Several of the mandates of special importance to this CCP include the following:

- Presidential Executive Order 13443–Facilitation of Hunting Heritage and Wildlife Conservation was issued on August 16, 2007. The purpose of this order is to direct Federal agencies that have programs and activities affecting public land management, outdoor recreation, and wildlife management, including the Departments of Interior and Agriculture, to facilitate the expansion and enhancement of hunting opportunities and the management of game species and their habitat. Federal agencies are directed to pursue certain activities listed in the order, consistent with their missions. Those activities include managing wildlife and wildlife habitats on public lands in a manner that expands and enhances hunting opportunities, and working with state and Tribal governments to manage wildlife and habitats to foster healthy and productive populations and provide appropriate opportunities for the public to hunt those species.
- Presidential Executive Order 13508–Chesapeake Bay Protection and Restoration (signed May 12, 2009). This order furthers the purpose of the Clean Water Act of 1972, as amended (33 U.S.C. § 1251 *et seq.*), and other laws “...to protect and restore the health, heritage, natural resources, and social and economic value of the Nation’s largest estuarine ecosystem and the natural sustainability of its watershed.” It recognizes the Chesapeake Bay as “a national treasure constituting the largest estuary in the United States and one of the largest and most biologically productive estuaries in the world.” The order also establishes the development of a strategy for coordinated implementation of existing programs and projects and development of an annual action plan and accomplishment reports. It also requires collaboration with state partners. The focus of the coordinated implementation plan will be to address
 - 1) water quality;
 - 2) sources of pollution from agricultural lands and Federal lands and facilities;
 - 3) protecting the bay’s resources as the climate changes;
 - 4) expanding opportunities for public access;
 - 5) conserving landscapes and ecosystems; and
 - 6) the monitoring and accountability of activities.
- Presidential Memorandum–America’s Great Outdoors (signed April 16, 2010). This memorandum established the America’s Great Outdoors Initiative. The initiative is a grassroots approach to protecting America’s lands and waters, and connecting all Americans to their natural and cultural heritage. Its major premise is that lasting conservation solutions should come from the American

people. The initiative empowers all Americans to share in the responsibility for conserving, restoring, and providing better access to the Nation's lands and waters. The goals of the initiative are the following:

- 1) Reconnect Americans, especially children, to America's rivers and waterways, landscapes of national significance, ranches, farms and forests, great parks, and coasts and beaches by exploring a variety of efforts, including
 - promoting community-based recreation and conservation, including local parks, greenways, beaches, and waterways;
 - advancing job and volunteer opportunities related to conservation and outdoor recreation; and
 - supporting existing programs and projects that educate and engage Americans in our history, culture, and natural bounty.
 - 2) Build upon state, local, private, and Tribal priorities for the conservation of land, water, wildlife, historic, and cultural resources, creating corridors and connectivity across these outdoor spaces, and for enhancing neighborhood parks; and determine how the Federal Government can best advance those priorities through public and private partnerships and locally supported conservation strategies.
 - 3) Use science-based management practices to restore and protect our lands and waters for future generations.
- Secretarial Order 3289—Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources (issued on September 14, 2009). This order establishes a Departmentwide, science-based approach to increasing our understanding of climate change and to coordinate an effective response to its impacts on Tribes and on the land, water, ocean, fish and wildlife, and cultural heritage resources that the Department manages. The order requires a "Climate Change Response Council" that will execute a coordinated Departmentwide strategy to increase scientific understanding and the development of adaptive management tools to address the impact of climate change on our natural and cultural resources. The Council will help coordinate activities within and among Federal agencies. Land management agencies are directed to pursue appropriate activities to reduce their carbon footprint, adapt water management strategies to address the possibility of a shrinking water supply, and protect and manage land in anticipation of sea level rise, shifting wildlife populations and habitats, increased wildland fire threats, and an increase in invasive and exotic species.



Bald eagle

Steve Maslowski/USFWS

Conservation Plans and Initiatives Guiding the Project

Birds of Conservation Concern 2008 Report (USFWS, 2008)

The Service developed the Birds of Conservation Concern (BCC) report (USFWS, 2008) as an update to their 2002 report in consultation with the leaders of ongoing bird conservation initiatives and such partnerships as Partners in Flight (PIF), the North American Waterfowl Management Plan (NAWMP) and its Joint Ventures, the North American Waterbird Conservation Plan (NAWCP), and the U.S. Shorebird Conservation Plan. It fulfills the mandate of the 1988 amendment to the Fish and Wildlife Conservation Act of 1980 (100 Pub. L. 100–653, Title VIII), requiring the Secretary to “identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act of 1973.”

The overall goal of this report is to accurately identify the migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent our highest conservation priorities.

The geographic scope of this endeavor is the entire U.S., including U.S. island territories in the Pacific and Caribbean. The report encompasses three distinct geographic scales: 1) National; 2) North American Bird Conservation Initiative (NABCI) Bird Conservation Regions (BCRs); and, 3) the eight Service Regions.

This report lists priority bird species of conservation concern at each scale which are primarily derived from assessment scores from several major bird conservation plans: 1) the Partners in Flight North American Landbird Conservation Plans; 2) the U.S. Shorebird Conservation Plan; and 3) the North American Waterbird Conservation Plan. Bird species included on lists in the report include nongame birds; gamebirds without hunting seasons; subsistence-hunted nongame birds in Alaska; and Federal Endangered Species Act candidate, proposed endangered or threatened, and recently delisted species. Population trends, threats, distribution, abundance, and relative density were all factors considered.

This report is intended to stimulate coordinated and collaborative proactive conservation actions among Federal, state, Tribal, and private partners. It is hoped that by focusing attention on these highest-priority species, this report will promote greater study and protection of the habitats and ecological communities upon which these species depend, thereby contributing to healthy avian populations and communities. You may access the report at: <http://www.fws.gov/migratorybirds/NewReportsPublications/SpecialTopics/BCC2008/BCC2008.pdf> (accessed June 2011). This is one of the plans we used in identifying species of concern in appendix A, and in developing management objectives and strategies under goals 1 and 2.

North American Waterfowl Management Plan (NAWMP; update 2004) and Joint Venture Plans

Originally written in 1986, the NAWMP describes a 15-year strategy for the U.S., Canada, and Mexico to restore and sustain waterfowl populations by protecting, restoring, and enhancing habitat. The plan’s committee, including representatives from all three countries, has modified the 1986 plan twice to account for biological, sociological, and economic changes that influenced the status of waterfowl and to allow cooperative habitat conservation. The most recent modification in 2004 updates the latest needs, priorities, and strategies for the next 15 years, and guides partners in strengthening the biological foundation of North American waterfowl conservation and stakeholder confidence in the direction of the plan. You may access the report at: <http://www.fws.gov/birdhabitat/NAWMP/files/ImplementationFramework.pdf> (accessed June 2011).



Donna Dewhurst

Green-winged teal

Mid-Atlantic/Southern New England Bird Conservation Region (BCR 30) Implementation Plan (2007)

This plan covers the Mid-Atlantic/Southern New England BCR 30, which extends from southern Maine to coastal Virginia, including the Chesapeake Bay. This region provides important resources for migratory birds whose ranges span the western hemisphere. Habitats associated with coastal ecosystems provide the highest habitat values and provide critical staging areas for migratory waterfowl, waterbirds, shorebirds, and landbirds. Coastal beaches and wetlands, followed by forested upland communities, are considered the most important habitats in need of protection for migratory birds in this region.

The purpose of the plan is to develop common regional goals for bird conservation by integrating information from continental and regional bird conservation initiatives and State wildlife action plans, such as the U.S. Shorebird Conservation Plan, the North American Waterbird Conservation Plan, and the NAWMP (see separate discussions of plans below). The specific goals are to

- 1) identify the highest priority bird species and their specific habitat needs and threats;
- 2) delineate and define geographic focus areas for priority species;
- 3) use conservation design methods and modeling approaches to refine identification of important geographic areas;
- 4) develop models to estimate population and habitat goals for priority species;
- 5) identify the highest priority monitoring and research needs for birds and habitats;

To convey goals, priorities, and strategies more effectively, that 2004 modification comprises two separate documents: *Strategic Guidance* and *Implementation Framework*. The former is for agency administrators and policymakers who set the direction and priorities for conservation. The latter includes supporting technical information for use by biologists and land managers.

The plans are implemented at the regional level in 14 habitat Joint Ventures and 3 species Joint Ventures (Arctic Goose, Black Duck, and Sea Duck). The Refuge Complex lies in the ACJV, which includes all the Atlantic Flyway States from Maine to Florida and Puerto Rico. The ACJV Waterfowl Implementation Plan was completed in June 2005. The Refuge Complex lies within the plan's "Lower Potomac River—Virginia Sub-focus Area" (map 1.5). You can view the plan online at: <http://www.acjv.org/planning.htm> (accessed June 2011).

The waterfowl goal for the ACJV is to "Protect and manage priority wetland habitats for migration, wintering, and production of waterfowl, with special consideration to black ducks, and to benefit other wildlife in the joint venture area." The Black Duck Joint Venture plan also relates to our CCP. American black ducks use the refuge during the winter and migration, but are less common during their breeding season as their primary breeding grounds are in Canada. The Black Duck Joint Venture Final Draft Strategic Plan (USFWS/CWS 1993) resides online at: <http://www.pwrc.usgs.gov/bdjv/> (accessed June 2011). We referred to both Joint Venture plans in developing the management objectives and strategies under goals 1 and 2.

- 6) focus resources towards the highest priority birds and the habitats they depend upon; and
- 7) create a communication platform encouraging dialogue on bird conservation activities both within and between states and partners at the BCR scale.

To help achieve these goals, the plan lists 134 priority bird species for BCR 30 and identifies the region's coastal beaches, wetlands, and forested upland communities as the most important habitat types in need of protection. Throughout the region, the greatest threats to the conservation of these species and habitats are habitat degradation and loss, fragmentation, invasive species, and human disturbance. The plan also

- outlines activities and management actions thought to be most useful in addressing these needs and threats;
- highlights the most important geographic areas to focus conservation action on; and
- establishes a regional bird conservation initiative with partners across the BCR 30 to communicate and coordinate conservation planning and implementation.

For more information or to view the entire plan, please visit: <http://www.acjv.org/bcr30.htm> (accessed June 2011). We used this plan to help develop objectives and strategies for goals 1 and 2, and to create species of concern lists in appendix A.

North American Waterbird Conservation Plan (Version 1, 2002)

This plan (Kushlan et al., 2002) is an independent partnership among individuals and institutions interested in, or responsible for, conserving waterbirds and their habitats. The plan is just one element of a multi-faceted conservation program. The primary goal of the plan is to ensure that the distribution, diversity, and abundance of populations and habitats of breeding, migratory, and non-breeding waterbirds are sustained or restored throughout the lands and waters of North America, Central America, and the Caribbean. It provides a framework for conserving and managing colonially nesting water-dependent birds. In addition, it facilitates continentwide planning and monitoring, Federal, state, and provincial conservation, regional coordination, and local habitat protection and management. You can access the continental plan online at: <http://www.pwrc.usgs.gov/nacwcp/nawcp.html> (accessed June 2011). We referred to this plan as we developed management objectives and strategies under goals 1 and 2, and to create appendix A.

Mid-Atlantic/New England/Maritimes (MANEM) Waterbird Conservation Plan (2008)

A partnership of organizations and individuals working to facilitate waterbird conservation in the Mid-Atlantic/New England/Maritimes (MANEM) region of the U.S. and Canada has developed this regional waterbird conservation plan. Over 200 partners comprising the MANEM Waterbird Working Group compiled and interpreted technical information on the region's waterbird populations and habitats, assessed the conservation status of these natural resources, developed strategies to ensure the persistence of sustainable waterbird populations in the region, and identified near-term priorities. MANEM partners include wildlife managers, scientists, policymakers, educators, and other supporters.

The MANEM region consists of Bird Conservation Regions 14 (Atlantic Northern Forest) and 30 (Mid-Atlantic/Southern New England), and Pelagic Bird Conservation Regions 78 (Northeast U.S. Continental Shelf) and 79 (Scotian Shelf). The MANEM Waterbird Conservation Plan is being implemented within the context and framework of the North American Waterbird Conservation Plan—a project of the Waterbird Conservation for the Americas Initiative. You can access the plan online at: <http://www.waterbirdconservation.org> (accessed June 2011).

Seventy-four waterbird species use habitats in MANEM for breeding, migrating, and wintering. Avian families include loons, grebes, shearwaters, storm-petrels, boobies, pelicans, cormorants, herons, ibises, rails, gulls, terns, skuas, jaegers, and alcids. Partners in 4 subregions of MANEM selected 43 focal species for immediate conservation action. In addition, 55 of MANEM's waterbirds are identified in state wildlife action plans as "Species of Greatest Conservation Need." You can access information on Mid-Atlantic/New England/Maritimes regional planning online at: <http://www.fws.gov/birds/waterbirds/MANEM/> (accessed June 2011). We referred to this plan as we developed management objectives and strategies under goals 1 and 2, and while compiling appendix A.

U.S. Shorebird (2001, 2nd edition) and North Atlantic Regional Shorebird (2000) Plans

Concerns about shorebirds led to the creation of the U.S. Shorebird Conservation Plan in 2000. Brown et al. published a second edition in May 2001. Developed under a partnership of individuals and organizations throughout the United States, the plan develops conservation goals for each U.S. region, identifies important habitat conservation and research needs, and proposes education and outreach programs to increase public awareness of shorebirds and of threats to them. You may read the U.S. Shorebird Plan online at: <http://www.fws.gov/shorebirdplan/USShorebird/downloads/USShorebirdPlan2Ed.pdf> (accessed June 2011).

In the Northeast, the North Atlantic Regional Shorebird Plan was also drafted to step down the goals of the continental plan to smaller scales to identify priority species, species goals, habitats, and prioritize implementation projects. The North Atlantic Regional Shorebird Plan appears online at: <http://www.fws.gov/shorebirdplan/RegionalShorebird/RegionalPlans.htm> (accessed June 2011). We used both plans in developing our objectives and strategies for goals 1 and 2, and while compiling appendix A.

National Bald Eagle Management Guidelines (2007)

In July 2007, the Service issued a final ruling to officially remove the bald eagle from the Federal list of endangered and threatened species due to successful recovery throughout its range in the lower 48 States. The bald eagle continues to be protected by the Bald and Golden Eagle Protection Act (Eagle Act) and the Migratory Bird Treaty Act (MBTA). The Service developed these National Bald Eagle Management Guidelines to advise landowners, land managers, and others who share public and private lands with bald eagles, when and under what circumstances the protective provisions of the Eagle Act may apply to their activities. The guidelines are intended to help people minimize impacts to bald eagles, particularly where they may constitute disturbance, which is prohibited by the Eagle Act.

The guidelines are intended to

- 1) publicize the provisions of the Eagle Act that protect bald eagles to reduce the possibility that people will violate the law;
- 2) advise landowners, land managers, and the general public of the potential for various human activities to disturb bald eagles; and
- 3) encourage additional nonbinding land management practices that benefit bald eagles.

The document is intended primarily as a tool for landowners and planners who seek information and recommendations regarding how to avoid disturbing bald eagles. You can view these management guidelines at: <http://www.fws.gov/migratorybirds/baldeagle.htm> (accessed June 2011). We referred to these guidelines as we developed management objectives and strategies for bald eagles under goal 1.

Partners-in-Flight Bird Conservation Plans

In 1990, PIF began as a voluntary, international coalition of government agencies, conservation organizations, academic institutions, private industries, and citizens dedicated to reversing the population declines of bird species and “keeping common birds common.” The foundation of its long-term strategy is a series of scientifically based bird conservation plans using physiographic areas as planning units.

The goal of each PIF plan is to ensure the long-term maintenance of healthy populations of native birds, primarily nongame birds. The plan for each physiographic area ranks bird species according to their conservation priority, describes their desired habitat conditions, develops biological objectives, and recommends conservation measures. The priority ranking factors in habitat loss, population trends, and the vulnerability of a species and its habitats to regional and local threats.

Physiographic Area 44—Mid-Atlantic Coastal Plain Bird Conservation Plan (April 1999)

Our project area lies in Physiographic Area 44, the Mid-Atlantic Coastal Plain. We referred to this plan as we developed our management objectives and strategies under goals 1 and 2. The plan can be accessed at: http://www.blm.gov/wildlife/pl_44sum.htm (accessed June 2011).

The plan includes objectives for the following habitat types and associated species of conservation concern on the refuge:

- Forested Wetland: cerulean warbler (*Dendroica cerulean*), Swainson’s warbler (*Limnothlypis swainsonii*), Kentucky warbler (*Oporornis fromosus*), Acadian flycatcher (*Empidonax virens*), yellow-throated vireo (*Vireo flavifrons*), prothonotary warbler (*Protonotaria citrea*), and Louisiana waterthrush (*Seiurus motacilla*).
- Mixed Upland Forest: cerulean warbler, wood thrush (*Hylocichla mustelina*), Kentucky warbler, Acadian flycatcher, worm-eating warbler (*Helmitheros vermivorum*), eastern wood-pewee (*Contopus virens*), and Louisiana waterthrush.
- Fresh/Brackish Emergent Wetland: American black duck (*Anas rubripes*) and king rail (*Rallus elegans*).
- We used this plan to help develop objectives and strategies for goals 1 and 2, and to create appendix A.

A Management Plan for the Eastern Population of Tundra Swans (July 2007)

Responsibility for preparing migratory bird flyway management plans lies with Flyway Councils, which are administrative bodies who represent state and provincial wildlife agencies in North America. The Flyway Councils work cooperatively with the Service, the Canadian Wildlife Service, and the Mexican government’s wildlife agency (SEMARNAT). The Eastern Population (EP) of tundra swans (*Cygnus columbianus*) has been managed under a joint, four-flyway management plan first developed and implemented in 1982, with additions and updates occurring in 1988 and 1998. Since 1998, a number of research projects have highlighted some of the uncertainties identified in the 1998 plan. This 2007 plan, prepared by the Ad Hoc Eastern Population Tundra Swan Committee of the four Flyway Councils, incorporates new information, particularly related to the use and accuracy of mid-winter counts, and updates its recommendations for the long-term conservation of these swans. It can be accessed online at: <http://www.mdwfa.org/flyway.html> (accessed June 2011).

The specific purpose of this plan is to identify population goals, establish guidelines and priorities for management actions, identify strategies and assign responsibilities, specify levels of public use, and emphasize research needs to improve the management of EP swans. The primary management goal is to maintain an EP tundra swan population of 80,000 in the Atlantic and Mississippi Flyways. The plan discusses how the protection of breeding, staging, and wintering habitat is critical to this goal and to the long-term maintenance of EP tundra swans and the habitats they rely upon.

The Refuge Complex's tidal marsh and the surrounding shallow water habitats contribute to this goal by providing staging and wintering habitat for tundra swans. We consulted this plan and its recommended management actions as we developed objectives and strategies under goal 2.

A Management Plan for the Atlantic Population of Canada Geese (March 2008)

The Atlantic Flyway Council's Canada Goose Committee provides this update to the Atlantic Flyway Canada Goose Management Plan developed in 1989. The 1989 plan established population objectives and emphasized status assessments using wintering ground survey information. In 1996, in response to dramatic declines in the Atlantic Population (AP) Canada goose (*Branta canadensis*) population and coupled with an increase in the resident Canada goose population, the Atlantic Flyway Council developed an action plan to address immediate survey and research needs that would help guide management to rebuild AP goose numbers. Management efforts since 1996 have been directed towards ensuring population growth, resulting in a significant turnaround. This 2008 plan provides management guidelines to promote continued growth of the AP goose population at sustained higher levels. It can be accessed online at: <http://www.mdwfa.org/flyway.html> (accessed June 2011).

The overall management goal in this plan is to maintain the AP Canada goose population and their habitats at a level that provides optimum opportunities for people to hunt, view, and otherwise enjoy geese on a sustainable basis. The population objective believed necessary to achieve this goal is to maintain an index of 250,000 breeding pairs of AP Canada geese in the Ungava region of Québec, Canada.

One of the long-term strategies for maintaining this population is the conservation of important breeding, staging, and wintering habitats. The Refuge Complex provides staging and wintering habitat. We referred to this plan as we developed management objectives and strategies under goal 2.

Atlantic Flyway Mute Swan Management Plan (July 2003)

The Atlantic Flyway Council's Snow Goose, Brant, and Swan Committee prepared this plan in response to the exponential growth of the invasive, exotic mute swan (*Cygnus olor*) population in the Flyway that was occurring between 1986 and 2002, especially in Maryland and Virginia where the populations were doubling every 12 years. Mute swans are a Eurasian species, not native to North America. They are highly invasive of wetland habitats, impact native species of fish and wildlife, damage commercial agricultural crops, and pose a threat to human health and safety. Because of their consumption of large quantities of submerged aquatic vegetation (SAV) and aggressive behavior, they compete directly with many other native waterbirds and fisheries for limited resources in critical habitats.

The goal of this management plan is to "reduce the mute swan populations in the Atlantic Flyway to levels that will minimize negative ecological impacts to wetland habitats and native migratory waterfowl and to prevent further range expansion into unoccupied areas." This plan lists five specific management objectives and numerous associated strategies to achieve this goal. It can be accessed online at: <http://www.mdwfa.org/flyway.html> (accessed June 2011).

**Mute Swan in the
Chesapeake Bay: A
Baywide Management Plan
(June 2004)**

We referred to this plan, as well as the Chesapeake Bay Program's mute swan plan (see below) as we developed management objectives and strategies for dealing with this invasive species under goals 1 and 2.

This plan (USFWS, 2004) was prepared by the Chesapeake Bay Program's Mute Swan Working Group. We describe the successful partnership that is the foundation of the Chesapeake Bay Program below. Mute swans were identified as one of the highest concerns among the partners in the program when asked which species are causing, or have the highest potential to cause, adverse ecological effects in the bay's ecosystem. In response to this elevated concern, a working group of researchers, and Federal and state natural resource managers was formed to develop a baywide regional mute swan management plan.

The goal of the plan is to manage the Chesapeake Bay population of mute swans to a level that

- minimizes the impacts on native wildlife, important habitats, and local economies;
- minimizes conflict with humans;
- agrees with the Chesapeake Bay Program's Chesapeake 2000 Agreement goals for SAV and invasive species; and
- agrees with the Atlantic Flyway Mute Swan Management Plan.

The plan identifies management objectives and strategies that will work to meet this goal. It can be accessed online at: <http://www.mdwfa.org/flyway.html> (accessed June 2011).

We consulted this plan as we considered management actions to control mute swan. We describe those in Chapter 4 "Management Direction and Implementation."

**Atlantic Flyway Resident
Canada Goose Management
Plan (July 1999)**

This plan was cooperatively written by the state, provincial, and Federal agencies responsible for managing local-nesting or "resident" Canada geese in the Atlantic Flyway. It does not prescribe specific regulations or dictate management policies or programs, but identifies an overall management goal and five management objectives developed by all the cooperators. The concern with resident Canada geese is that their numbers began to escalate in the 1980s and biologists became concerned that their numbers might be masking a decline in the number of migratory AP Canada geese. This concern was coupled with the recognition that the resident geese were contributing significantly to sport harvests, and human/goose conflicts in urban and suburban areas. Banding studies have confirmed that these resident geese are a distinct population from the migratory AP Canada geese with very different management needs and opportunities.

We consulted this plan as we considered alternative management actions to benefit waterfowl under goal 1 objectives. Our intent is to continue working closely with VDGIF in managing this species. The plan can be accessed at: <http://www.mdwfa.org/flyway.html> (accessed June 2011).

**Partners in Amphibian
and Reptile Conservation,
National—State
Agency Herpetological
Conservation Report
(Draft 2004)**

Partners in Amphibian and Reptile Conservation (PARC) was created in response to the increasing, well-documented national declines in amphibian and reptile populations. PARC members come from state and Federal agencies, conservation organizations, museums, the pet trade industry, nature centers, zoos, utility industries, universities, herpetological organizations, research laboratories, forest industries, and environmental consultants. Its five geographic regions—Northeast, Southeast, Midwest, Southwest, and Northwest—focus on



John Mosesso, Jr., NBII

Eastern ribbon snake

national and regional herpetofaunal conservation challenges. Regional working groups allow for region-specific communication.

The National State Agency Herpetological Conservation Report (NHCR), a summary report sponsored by PARC, provides a general overview of each state wildlife agency's support for reptile and amphibian conservation and research through September 2004. Each state report was compiled in cooperation with its agency's lead biologist on herpetofaunal conservation. The purpose is to facilitate communication among state agencies and partner organizations throughout the PARC network to identify and address regional and national herpetological priorities.

PARC intends to expand the scope of the NHCR to include other states, provinces, and territories. It will also include other state agencies that are supporting herpetofaunal conservation and research, such as transportation departments, park departments, and forest agencies. The U.S. Geological Survey (USGS) is supporting the Northeastern Partners in Amphibian and Reptile Conservation Home Page as part of its contribution to PARC. It is being served by the Patuxent Wildlife Research Center, part of the USGS Eastern Region (<http://www.pwrc.usgs.gov/partners/>; accessed June 2011). The next NHCR will also integrate the list of species of conservation concern into each state's comprehensive wildlife conservation strategy (see below). We referred to the latest draft NHCR plan in developing management objectives and strategies for goals 1 and 2, and in developing appendix A.

**U.S. Fish & Wildlife
Service Fisheries Program,
Northeast Region
Strategic Plan 2009–2013
(January 2009)**

The Service's Fisheries Program's primary mission is to work with others to maintain self-sustaining, healthy populations of coastal and anadromous fish, fish species that cross state or national boundaries, and endangered aquatic animals and their habitats. In the Northeast Region, 25 fishery management offices and national fish hatcheries work with states and other partners to restore and protect a variety of fish and other aquatic species. Examples include Atlantic salmon (*Salmo salar*), striped bass (*Morone saxatilis*), American shad (*Alosa sapidissima*), alewife (*Alosa pseudoharengus*), blueback herring (*Alosa aestivalis*), Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*), horseshoe crab (*Limulus polyphemus*), American eel (*Anguilla rostrata*), and menhaden (*Brevoortia tyrannus*).

The Fisheries Program has played a vital role in conserving and managing fish and other aquatic resources since 1871. Today, the Fisheries Program is a critical partner with states, Tribes, other governments, other Service programs, private organizations, public institutions, and interested citizens in a larger effort to

Striped
bass



Kraft, C.E.,
D.M. Carlson, and
M. Carlson. 2006. *Inland
Fishes of New York (Online)*.
Version 4.0. Department of Natural
Resources, Cornell University, and
the New York State Department of
Environmental Conservation.

conserve these important resources. In 2002, working with its many partners in aquatic conservation through the Sport Fishing and Boating Partnership Council's Fisheries Steering Committee, the Service completed its Strategic Vision (Vision) document: "Conserving America's Fisheries, U.S. Fish and Wildlife Service Fisheries Program Vision for the Future." That vision document includes goals, objectives, and action items on a national programmatic scale.

The Fisheries Program is committed to working with partners to

- 1) protect the health of aquatic habitats;
- 2) restore fish and other aquatic resources; and
- 3) provide opportunities to enjoy the many benefits of healthy aquatic resources.

The Regional Fisheries Program Strategic Plan is an extension of the vision, describing more specifically the tactics to be implemented by the Northeast Region to fulfill the goals and objectives identified in the vision. The first plan covered years 2004 to 2008. The current plan can be viewed at: <http://www.fws.gov/northeast/fisheries/> (accessed June 2011).

This plan brings together changing national direction, institutional knowledge, analysis of spatial information, and the perspectives of our state and Tribal partners to develop a strategic plan that allows this regional program to prioritize its efforts during challenging times, while promoting positive change into the future. As the plan is implemented it will build on a strong foundation of active partnerships and past accomplishments, while recognizing that continued communication, cooperation, and expansion of partnerships is essential for successful implementation of this plan and fulfillment of the Program's resource responsibilities and obligations. This plan was built off the lessons learned from implementing the 2004–2008 strategic plan.

One step-down effort resulting from the plan is the identification and ranking of fish and other aquatic species as to their level of conservation concern by hydrologic unit. We used this ranking and have consulted with the Regional Fisheries Program staff in developing aquatic objectives and strategies under goal 2 and in creating appendix A "Species Known or Suspected on the Refuges and Their Conservation Status."

**Virginia Department of
Game and Inland Fisheries,
Virginia's Comprehensive
Wildlife Conservation
Strategy (2005)**

In 2002, Congress created the State Wildlife Grant Program (SWG) and appropriated \$80 million in grants to help state and Tribal fish and wildlife agencies conserve fish and wildlife species of greatest conservation need. The funds appropriated under the program are allocated to states according to a formula that takes into account the state's size and population.

To be eligible for additional Federal grants and satisfy the requirements for participating in the SWG program, each state and U.S. territory needed to develop a statewide "Comprehensive Wildlife Conservation Strategy" and submit it to the National Advisory Acceptance Team by October 1, 2005. Each plan needed to address eight required elements, identify and focus on species of greatest conservation need, yet address the "full array of wildlife" and wildlife-related issues, and to "keep common species common."

The Virginia Comprehensive Wildlife Conservation Strategy (VDGIF, 2005), more commonly referred to as the Virginia "Wildlife Action Plan" (WAP), developed from that charge. The goal of this plan is to create a vision for conserving Virginia's wildlife and stimulate other states, Federal agencies, and conservation partners to think strategically about their individual and coordinated roles in prioritizing conservation.

In addressing the eight elements below, the Virginia WAP supplements and validates the information on species and habitat and their distribution in our analysis area, and helps us identify conservation threats and management strategies for species and habitats of conservation concern in the CCPs. The WAP was invaluable to us during our planning process because of the depth of expertise and amount of public and partnership involvement that went into its development. We used it in developing objectives and strategies for goals 1 and 2, and in developing appendix A. These are the eight elements required for state WAPs:

- 1) Information on the distribution and abundance of species of wildlife, including low and declining populations, as the state fish and wildlife agency deems appropriate, that are indicative of the diversity and health of the state's wildlife
- 2) Descriptions of locations and relative condition of key habitats and community types essential to the conservation of species identified in element 1
- 3) Descriptions of problems that may adversely affect species identified in element 1 or their habitats, and priority research and survey efforts needed to identify factors that may assist in restoration and improved conservation of these species and habitats
- 4) Descriptions of conservation actions necessary to conserve the identified species and habitats and priorities for implementing such actions
- 5) Plans proposed for monitoring species identified in element 1 and their habitats, for monitoring the effectiveness of the conservation actions proposed in element 4, and for adapting those conservation actions to respond appropriately to new information or changing conditions
- 6) Description of procedures to review the plan at intervals not to exceed 10 years
- 7) Plans for coordinating, to the extent feasible, the development, implementation, review, and revision of the plan strategy with Federal, state, and local agencies, and Native American Tribes that manage significant areas of land and water within the state, or administer programs that significantly affect the conservation of identified species and habitats
- 8) Plans for involving the public in the development and implementation of plan strategies

Other Regional Information Sources

We also consulted the plans and resources below as we refined our management objectives and strategies, especially those with a local context.

A Guide to the Conservation of Forest Interior Dwelling Birds in the Chesapeake Bay Critical Area. Forest interior dwelling birds (FIDS) require large tracts of forest for nesting, breeding, and foraging habitat. FIDS are a diverse group of birds, including migratory songbirds, woodpeckers, hawks, and owls. Although many of the FIDS species are still relatively common, populations of some of these species are declining. The loss and fragmentation of forested habitats are major threats to all FIDS species. As the Chesapeake Bay region becomes increasingly more developed, the forests these species rely on are becoming further fragmented.

The Chesapeake Bay Critical Area Commission's, "A Guide to the Conservation of Forest Interior Dwelling Birds in the Chesapeake Bay Critical Area," contains a list of the 25 FIDS species that breed in the Chesapeake Bay area, information on how to identify the presence of FIDS habitat, and conservation guidelines on how to manage for these species. The conservation guidelines focus on regional

and local land use planning, site design guidelines for developers and landowners, and ways to mitigate impacts on FIDS. This guide is available online at: http://www.dnr.state.md.us/education/envirothon/wildlife/criticalareareg_FIDS.pdf (Chesapeake Bay Critical Area Commission 2000; accessed June 2011). We used this guide in identifying species of concern in appendix A.

Chesapeake Bay Program. The Chesapeake Bay Program (Bay Program) (<http://www.chesapeakebay.net/>; accessed June 2011) is a unique regional partnership directing and conducting the restoration of the bay since the signing of the historic 1983 Chesapeake Bay Agreement. The Bay Program partners include the States of Maryland, Pennsylvania, and Virginia; the District of Columbia; the Chesapeake Bay Commission, a tri-state legislative body; the Environmental Protection Agency (EPA); and participating advisory groups. Since its inception, the Bay Program's highest priority has been the restoration of the bay's living resources, including finfish, shellfish, bay grasses, and other aquatic life and wildlife. Improvements include fisheries and habitat restoration, recovery of bay grasses, nutrient and toxic reductions, and significant advances in estuarine science. In April 2007, the Bay Program released its Chesapeake Bay 2006 Health and Restoration Assessment. The report gives watershed residents a clear and concise synopsis of bay health and on-the-ground restoration efforts taking place across its vast watershed (<http://www.chesapeakebay.net/publication.aspx?publicationid=15548>; accessed June 2011). The report is divided into two parts: Ecosystem Health and Restoration Efforts. This format of reporting, first used to detail the condition of the bay in 2005, allows the Bay Program partnership to look at the effectiveness of cleanup actions across the entire watershed and allocate restoration efforts appropriately.

Potomac Conservancy. The mission of the Potomac Conservancy is to protect the health, beauty, and enjoyment of the Potomac River and its tributaries. The Potomac Conservancy's primary focus is protection of water quality through land protection and sound land use practices. Because clean water alone is not enough, the Potomac Conservancy also works to preserve and restore the Potomac's scenic landscapes, and to enhance river-based recreational opportunities (<http://www.potomac.org/site/about-us/>; accessed June 2011).

Fairfax County Comprehensive Plan of 2007. This plan, required by State law, is a guide to decisionmaking about the built and natural environment by the county's Board of Supervisors and other agencies, such as the Planning Commission and the Board of Zoning Appeals. It is also a guide for county staff and the public to use in the planning process.

Prince William County Comprehensive Plan of 2003 with Amendments of 2006. This Comprehensive Plan creates a vision for the future of Prince William County. It is used as a guideline for evaluating and negotiating development applications. Generally, development applications that fail to match Comprehensive Plan goals and actions can be denied. The Comprehensive Plan includes a map that shows planned land uses on a parcel-to-parcel basis. It also lists specific goals and actions that are needed to make the vision a reality.

National Audubon Society's Important Bird Area Program. The National Audubon Society participates in a global IBA program which identifies areas that are most important for maintaining bird populations and focuses conservation efforts on protecting these sites. In the U.S., more than 1,200 IBAs in 40 states have been identified. The Virginia Audubon chapters have established the following goals for IBAs in the State:

- Identify, document, and publicly recognize Virginia's most important areas for birds.
- Engage people in citizen science and avian conservation cooperative projects with land managers to benefit birds and their habitats at IBAs.
- Partner with others to bring conservation tools and resources to IBAs in need of conservation.
- Base all action on the best available scientific criteria.

The refuge lies in the Lower Potomac River IBA (map 1.5). This 281,134 acre area includes the tidal fresh/brackish reach of the Potomac River extending from Mathias Point to just above Fort Belvoir. It supports a variety of habitats including emergent and forested wetlands, extensive tracts of upland hardwoods, and a diversity of other upland habitats.

The upper tidal reach of the Potomac River has been the focus of intensive ornithological observation for 200 years. Over this time period, the landscape and bird community have changed dramatically. Currently, the area supports a significant community of piscivorous (fish-eating) bird species, including one of the largest great blue heron (*Ardea herodias*) colonies within the Mid-Atlantic region, a dense breeding population of bald eagles, and both a summer and winter concentration area for migrant bald eagles. The rich hardwood forests are strategically important for local breeding populations of neotropical migrants, as well as stopover areas for northern populations moving through the region in the fall. The waterways support significant populations of waterfowl during migration and winter. This IBA also includes one of only two known breeding locations for the Bachman's warbler (*Vermivora bachmanii*) in Virginia.

To learn more visit the Northern Virginia Audubon Society Web site at: <http://www.audubonva.org/index.php/important-bird-areas-iba> (accessed June 2011).

Individual Species Plans

We also referred to the following species specific plans while developing management goals, objectives, and strategies for both refuges.

Sensitive Joint-Vetch Recovery Plan; available at: http://ecos.fws.gov/docs/recovery_plans/1995/950929b.pdf (accessed June 2011)

American Shad and River Herring Fisheries Management Plan (spawning/nurseries); available at: <http://www.asmfc.org/> (accessed June 2011)

Final Recovery Plan for the Shortnose Sturgeon; available at: http://www.nmfs.noaa.gov/pr/pdfs/recovery/sturgeon_shortnose.pdf (accessed June 2011)

Interstate Fishery Management Plan for Atlantic Sturgeon and its amendments and addendums; available at: <http://www.asmfc.org/speciesDocuments/sturgeon/fmps/fmps/sturgeonFMP.pdf> (accessed June 2011)

American Eel Fisheries Management Plan and addendum; available at: <http://www.asmfc.org/speciesDocuments/eel/fmps/eelFMP.pdf> (accessed June 2011)

Small Whorled Pogonia Recovery Plan; available at: http://ecos.fws.gov/docs/recovery_plans/1992/921113b.pdf (accessed June 2011)

Refuge Management Profiles

Establishing Authority and Purpose

Mason Neck Refuge was established in 1969 as the Nation's first refuge specifically established to protect a federally listed endangered or threatened species—the bald eagle, which was federally listed as threatened until 2007. The refuge was created under the authority of the Endangered Species Preservation Act of 1966, the precursor to the current-day Endangered Species Act of 1973. From the initial acquisition of 845 acres in 1969, Mason Neck Refuge has grown to 2,277 acres. This includes 789 acres leased in 1982 for 60 years from the Northern Virginia Regional Park Authority (NVRPA).



Bill Wallen

Eagle Point Shelter at Mason Neck NWR

Featherstone Refuge was established under Public Law 91-499, approved October 22, 1970 (84 Stat 1095). This law authorized the Secretary to acquire, by purchase or exchange, portions of a tract of land in Prince William County, Virginia (then being disposed of by the District of Columbia). As a prerequisite of the transaction, both the Secretary and the District of Columbia had to mutually agree that the lands were formally classified wetlands, or included adjacent lands necessary to protect the natural features of the wetlands, and were worthy of permanent protection. The purchase of the first 164 acres did not occur until 1979. This was followed by a 161-acre gift from Prince William County in 1992 resulting in the present 325-acre refuge.

Refuge Administration

In 1998, Mason Neck, Featherstone, and Occoquan Bay Refuges were organized into the Potomac River National Wildlife Refuge Complex. The decision to jointly administer the refuges was based on the proximity of the refuges and the management complexity of Mason Neck and Occoquan Bay Refuges. This change necessitated sharing staff and resources to address the management requirements of all three refuges.

The refuges' shared staff are based at Refuge Complex headquarters in Woodbridge, Virginia. Mason Neck Refuge has its own maintenance compound onsite. Featherstone Refuge has no onsite facilities and is maintained with equipment located at Occoquan Bay Refuge. The Refuge Complex has six full-

time permanent staff members: the refuge manager, assistant refuge manager, outdoor recreation planner, law enforcement officer, administrative assistant, and maintenance worker. These positions have responsibilities throughout the Refuge Complex. Additional permanent staff are recommended in this plan as depicted in appendix E. The Refuge Complex also may employ seasonal, part-time, or term appointments.

Occoquan Bay Refuge was established in 1998, combining land previously acquired as Marumscu Refuge in 1972 and, later, military surplus lands. Its 642 acres include extensive grasslands interspersed with marshes and early successional shrub and forest areas that support neotropical migratory birds and grassland-dependent species. A separate CCP for Occoquan Bay National Wildlife Refuge was completed in 1997 (USFWS, 1997). For further details on this refuge and its management, please contact refuge headquarters staff or visit the refuge Web site at: <http://www.fws.gov/occoquanbay/index.html> (accessed June 2011).

Refuge Operational Plans ("Step-down" Plans)

Refuge planning policy (602 FW 3) lists more than 25 step-down management plans that may be applicable on any given refuge. Those plans outline specific strategies and implementation schedules for achieving refuge goals and objectives. Some plans require annual revisions; others require revision every 5 to 10 years. Some also require additional NEPA analysis, public involvement, and compatibility determinations before we can implement them.

The status of step-down plans on the refuges follows. This CCP document incorporates, by reference, those plans that are up-to-date.

Step-down plans and annual updates completed for the Refuge Complex:

- Chronic Wasting Disease (2006)
- Avian Influenza (2006)
- Safety (annually updated)
- Emergency Action (annually updated)
- Continuity of Operations (annually updated)
- Hazard Communications (annually updated)
- Hurricane (annually updated)

The following plan is completed for both Mason Neck and Featherstone Refuges:

- Fire Management (2004; anticipate update in 2011)

The following plans will be completed:

- Law Enforcement (in preparation for the Refuge Complex; anticipate completion in 2011)
- Habitat Management (HMP; will be done for each refuge)
- Visitor Services (VSP; will be done for each refuge)
- Integrated Pest Management (IPM; will be done for each refuge)
- Inventory and Monitoring (IMP; will be done for each refuge)
- Sign (will be done for each refuge)

In Chapter 4, "Management Direction and Implementation," we prioritize the development of the plans not yet completed. Additional plans may be required in response to new information once implementation of the CCP is underway.

Vision Statements

Very early in the planning process, our team developed the following vision statements to establish a desired condition for the entire Refuge Complex, as well as to provide a guiding management philosophy and convey Mason Neck and Featherstone Refuges' unique contribution to that overall vision.

Potomac River Refuge Complex Vision

The Potomac River National Wildlife Refuge Complex provides exceptional forest, grassland, and wetland habitats for wildlife in a dynamic, highly urbanized region of Northern Virginia. We will maintain and enhance those quality habitats along the middle tidal Potomac River for native wildlife, particularly bald eagles and other species of conservation concern.

The proximity of the Refuge Complex to our Nation's capital provides unparalleled opportunities to demonstrate the importance of the natural world in enhancing the quality of human life and raise public awareness about the value of the National Wildlife Refuge System. Through outreach, education, and partnerships, we will foster stewardship of the living resources of the tidal Potomac River and the Chesapeake Bay watershed. Visitors will have diverse opportunities for quality, compatible, wildlife-dependent recreation.

Mason Neck Refuge Vision

Elizabeth Hartwell Mason Neck National Wildlife Refuge is dedicated to the protection of the bald eagle and exemplifies the significant efforts, contributions, and successes of conservationists in Virginia. The refuge will continue to protect and enhance regionally important habitat for the bald eagle, migratory birds, and native wildlife and plant species along the tidal Potomac River. We will provide quality wildlife-dependent recreational and educational opportunities, in particular, wildlife viewing and photography. In cooperation with the other agencies in the Mason Neck Management area, we will work to resolve resource issues on the Mason Neck Peninsula.

Featherstone Refuge Vision

Featherstone National Wildlife Refuge provides valuable acres of 'wild woods and wetland' which are rapidly disappearing within this region of Virginia. The refuge will continue to protect wetlands, bottomland hardwoods, and associated native wildlife and plants in an otherwise highly urbanized setting along the tidal Potomac River. Assuming access issues are resolved, the refuge will provide limited, quality, wildlife-dependent recreational opportunities, in particular, wildlife viewing and fishing.

Refuge Goals

In our discussion on the "purpose of, and need for, the proposed action" earlier in this chapter, we presented the goals we developed for each refuge. Those goals are based on our vision for each refuge, their respective establishment purposes, the missions of the Service and the Refuge System, and the mandates, plans, and conservation initiatives above. The goals are intentionally broad, descriptive statements of purpose. They highlight elements of our vision for the refuge's that we will emphasize in future management. The biological goals take precedence; but otherwise, we do not present them in any particular order. In chapter 4 we outline the process by which these goals will be achieved.